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## ABSTRACT

The paper reports on a case study of the language environments of two severely involved, non-oral cerebral palsied preschoolers. Observation of interactions, comprehension development, acquisition of productive signals and of use of supplementary communicative devices revealed deviances in language directed to severely multiply physically handicapped (SMPH) children which may have a profound effect on the developing communicative systems of these children. Peculiarities were noted in lexical and conceptual input, control of the interaction, (relationship of self to others) function of the interaction, and exposure to speech events. It is noted that there are "holes" in the lexical input of the language adults direct to SMPH children. One possible explanation for the gap in conceptual/lexical input may be adults' disinclination to "go half-way" with non-oral SMPH, their seeming lack of enthusiasm for an extensive acceptance of different levels of participation. The interactions of SMPH children are predominantly initiated and terminated by others, interactions seldom allow the SMPH student to express preferences or choices, and SMPH children are largely excluded from the conversational aspects of events. Findings stress the importance of the quality of adult-SMPH child interaction for the child's communicative progress. (CL)

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INTERACTIONS WITH HANDICAPPED CHILDREN:  
WHO'S HANDICAPPED?

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Interactions with Handicapped Children:  
Who's Handicapped?

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In an often-competitive academic research world, it is usually a real "find" to discover a true gap in the research literature. If, on the other hand, one believes, naively or not, that research produces knowledge that can and does have an impact on some practitioners, and if one has a real commitment to certain clients, then finding this gap is accompanied by undeniable ambivalence. We currently find ourselves with such a mixture of excitement and regret.

Some months ago, we began a case study of the language environments (interactions, development of comprehension, acquisition of productive signals, acquisition of use of supplementary communicative devices) of two severely involved, non-oral cerebral palsied children. One, Missy, is four and a half; Jon is five and a half. We have participated and observed with them, with their parents, with their peers, and with their teachers and aides in a special pre-school for handicapped children, in their homes, in our homes, and in the day care center where one of them is mainstreamed. In the "special" pre-school, we have also observed the interactions and activities of other cerebral palsied children.

During this time, we have sought in vain for some kind of accumulated research literature that specifically concerned the language development of children like these two. What we have found are: (1) studies and proposals about the advisability of various types of communication devices with non-oral (including cerebral palsied) children (e.g., Vanderheiden, 1975; McDonald & Schultz, 1973; Hagen, Porter, & Brink, 1973), and (2) analyses of various aspects of the language of other types of handicapped children, usually but not always derived from experimental conditions (DeVilliers & DeVilliers, 1978; Menyuk, 1975; Siegel, 1963; Goldin-Meadow & Feldman, 1977; Rowland 1980; Van Kleeck, in press; Lenneberg, 1962; Morehead & Ingram, 1973; Morehead & Morehead, 1976). With the exception of one study which related incidental anecdotes (the focus was elsewhere) about spontaneous use of communication boards (Hagen et al, 1973), we have not found a single instance of systematic (or even

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unsystematic) observations of any naturally occurring aspect of the language environments of severely multiply physically handicapped (SMPH), non-oral, cerebral palsied children.

The findings of studies of naturally occurring language interactions with normal children with varied participants in varied settings has been extremely productive for the understanding of normal language development (with implications for the nature of learning, the nature of human intelligence, indeed the nature of human-ness itself). Findings and methodology from such studies have informed both the research on and educational practice concerned with the development of language and language-related processes in school (Lindfors, 1980; Goodman & Goodman, 1977). It is our hope that similar studies of interactions with non-oral SMPH cerebral palsied children would provide similar benefits to the children and to the professionals and family members who treat and care for them. It is our suspicion that the total lack of such studies has some part to play in the strange quality of the language environments we have been seeing since we began our observations.

As a most initial effort in building the body of knowledge we feel is necessary for the sake of all concerned with this population (as well as with the implications such knowledge would have for further understanding of normal language use), we present here some impressions based on our early observations of naturally occurring language interactions with non-oral SMPH cerebral palsied children. In this presentation, we will focus on contrasts between what we have seen in interactions with Jon, Missy and the other non-targeted cerebral palsied children at the preschool and what we know about interactions with normal children.

Language directed to normal neophytes by more mature conversational partners has been found to have certain attributes: utterances (to children vs. adults) are shorter and more well-formed; the input presents a total hierarchical system from which the child can induce hypotheses about parts of the system in relation to the whole; topics tend to be about the here-and-now; the input is directed individually to the learner; the object to be learned, i.e., the language, is used in the service of something else; e.g., directing/playing with/caring for the child (Edelsky, 1978).

Though it is likely that language directed to SMPH children also has the above attributes, our observations reveal some possibly critical deviancies which we believe may have a profound effect on the developing communicative systems of these children. The peculiarities concern the lexical and conceptual input, control of the interaction, (and relationship of self to others) function of the interaction, and exposure to speech events.

In the first place, the lexical input appears to have "holes" in it. That is, while it may be overloaded with labels (e.g., brace, wedge, wheelchair) or directions (get loose, relax) necessary for SMPH children, it seems to lack certain terms/meanings we expect to find in the input to normal young children. For instance, a word like cup, or relational prepositions like under, over, behind or action verbs like run, skip, hop or some question words like what, where, when appear to be missing.

Our suspicion is that the lack stems from something more complex than the adults' perceptions of the child's physical disabilities. We suspect that it involves an interaction between perceptions of disabilities and adult notions about prototypical relations of children with the world. We suggest that the idea of a critical event can help us understand this deviant lexical input. That is, there are multiple meanings that might be encoded in any given moment. For any one of them to be encoded (e.g., cup, glass, under-ness, over-ness, etc.), it may have to meet unconsciously-held expectations for the presence of certain critical events (combinations of objects, appropriate actions, intentions) involving the young language learner. For cup, the critical event might be that the child hold the cup; for under, that the child must put part or all of her body under something. Since an SMPH child drinks from but does not hold a cup, she doesn't hear here's your cup. Rather, she hears d'you want a drink or here's the juice. Since this child does not retrieve balls from under tables, she doesn't hear get it; it's under the table. Since she makes few decisions, she doesn't hear decision words like where or what. In other words, adults are referring to the here-and-now, as they do with normal children, but what they refer to is limited by the match occurring between the "ideal" and what they expect from their co-participant in relation to the objects and meanings possible for encoding in any given here-and-now. If the co-participant is not expected to do what the adult

counts as critical regarding cups, cup will not be mentioned even if it is present. In this way, the lexicon available to these children becomes skewed and distorted.

While critical events may account for some of the skewing, other gaps in the lexical/conceptual input may be attributed to adults' disinclination to "go half-way" with non-oral SMPH children, to adults' seeming lack of enthusiasm for an extensive acceptance of different levels of participation.

Going half-way is done to some extent (e.g., adults bring events to the children rather than expecting them to go to the event), but there are still noticeable holes. Normal children are expected to be able to do it all themselves eventually (whatever the "it all" is), and so their early less competent levels of participation are accepted as stages which they will pass through. For example, normal infants are certainly inadequate conversational partners, yet their levels of participation (smiles/burps, later coos, later babbles, later words, etc.) are accepted as conversational offerings (Snow, 1977). Perhaps because SMPH children will never be able to do "it" all, adults don't use the children's limited abilities as possible steps toward a developmental goal that will fall far short of normal competence. Rather than giving them experience with partial participation, none is offered. For example, the assumption seems to be that if they can't walk to the refrigerator, they don't get to know the feeling of the cold air or the idea of refrigeration; if they can't talk, they can't listen (to stories, records); if they can't act silly, they can't laugh at silliness; if they can't clean up spilled milk, they can't learn not to knock over the glass. Many language routines (be careful, watch out, turn it louder/off/up/down, etc.) and ordinary concepts are presented in activities about which our SMPH subjects are ignorant because their partial participation is not considered.

Another deviant aspect of interactions with SMPH children is that their interactions are predominantly initiated and terminated by others. This may be related to three kinds of assumptions adults make about the SMPH children's signals and about them as people: that their signals and their "selves" lack intentionality or will; that their signals lack specific meanings; and that their signals are age-inappropriate.

Normal infants scan the environment with their eyes. When their scanning meets the eyes of an adult, a "dance of eyes" often ensues (Stern, 1974). Since the adult assumes the eye scanning and meeting is volitional, s/he is willing, in fact eager, to let the baby initiate an interaction. It is rare that our cerebral palsied subjects' eye movements are endowed with intentionality by potential co-participants. What usually happens is that the movements are considered random. Sometimes, the eye movements of cerebral palsied children in fact are not normal, but this is not true of all such children. Jon, severely involved and having little facial muscle control, nevertheless has eyes which move normally. Yet his eye contact is not interactionally attended to any more than is that of the children with less controlled eye movements. Instead, the general stance in the special school vis à vis Jon is that he has few or no meanings to communicate and thus his signals do not usually begin any interactions.

Normal infants babble and their babbles often begin a chain of parent-child language play, with the parent babbling back (Lindfors, 1980). Normal babies also have "fussing" noises or specific sounds they use to enter an interaction or get attention. Caretakers and older children attribute intention to such sounds and try to identify the specific need(s) being communicated.

The picture is different for these SMPH children. If they babble, the babbling is not often answered. (On the one hand, these children are, out of necessity, treated and cared for as babies--fed, diapered, carried; on the other hand, aspects of their behavior are ignored, perhaps because these aspects are too babylike). Their fussing or attention-getting signals are similarly ignored (sometimes because they are extremely subtle and therefore not perceived by someone who is not already looking for them) or attributed to general "fussiness" or uncooperativeness rather than to specific needs.

Not only are they not "taught" to initiate, but the SMPH children are not allowed to terminate interactions or to "say" when they are finished with an activity. Normal babies turn their heads away (Stern, 1974) and toddlers simply leave the scene when they are through with an event. In contrast, the wandering of the cerebral palsied child's eyes seems to be considered a function of spasticity or short attention span rather than termination of the interaction.

Fortunately, there are some counter-examples to the assumptions/stances we see being acting out most of the time. When a rather dull movie was being shown at the special school and the audience was restless, one teacher mockingly admonished Jon and Missy, whose eyes were roving-around the room and occasionally meeting hers, to stop talking to me and watch the movie; that is, she invested their eye movements with both will and language function. Young normal children at the day care center with mainstreamed SMPH children have been seen to insist on eye contact from Missy, (look at me, Missy, sometimes turning her face toward them with their hands) and to respond to her when her eyes meet theirs (what? you want these, Missy?). Some of these same normal peers, along with her, parents and a few of her teachers, babble back to Missy, sometimes initiating changes in the babbles which she then repeats.

These exceptions are just that, however--exceptions. Usually, the SMPH children are treated as though they have no wish to initiate or terminate interactions. Like other children, they seem to perceive variation in contexts, including variations in how they are perceived/interacted with. When, as Missy's mother said, they are "written off" as having no specific meanings to communicate, they flatten out and stop signaling. Reciprocity of interaction, which usually leads to advances in development (Bell, 1971) and is a characteristic of all human interaction (Mehan & Wood, 1975), appears to be operating negatively for these children. Their signals are usually ignored or assigned generalized rather than specific meanings and they thus signal less and less in certain contexts. The net effect appears to be an absence of development of notions of control and choice and a lessening of expressiveness. The loss of expressiveness and the ensuing lessened animation (the flattening of affect) could easily contribute to their being perceived as even duller, having even fewer specific ideas, and being even less worthy as a sustained interactional partner. This may be related to absences in their communicative repertoire: impoverished means for being playful; a limited notion of conversation--one that fails to account for the fact that conversations are mutual enterprises (no wonder; for them, they aren't); an absent or meagre repertoire of active routines or socio-linguistic acts (initiating topics, interrupting, beginning and ending interactions), and a relative preponderance of passive routines (e.g.,

thank you) for living out their assigned passive role in life---receiving what the world does out.

A third kind of deviance, seen within rather than merely at the beginnings and endings of interactions, is that co-participants seem to assume that SMPH children have only one purpose for language: to request. There is a conspicuous lack of language input that attributes other functions (heuristic, interactional, instrumental, etc., (Halliday, 1977)) or even preferences to these children. If they were assumed to have preferences (for food, positions, stories, toys, music, etc.), it would be relatively easy to find what these are from their caretakers. Such is not the case. One rarely hears any interaction with them where preferences or choices between several objects is the topic/function. Instead, the choices given, if any, are yes/no rather than either/or options.

Once again, other children seem to be the origin of the exceptions. Overheard in the special pre-school, explaining her position to an aide, Mary attributed a regulatory function/meaning to Jon (Jon told me to lie like this). And in the mainstreaming day care center, her normal peers assume that Missy has preferences (Missy doesn't like that).

The effect of assuming minimal language functions or of assuming no preferences could be another one of those debilitating cycles. The child's animation goes and, in the words of a parent, s/he becomes either a "space cadet" or a "wash-out"---hardly an attractive partner for interaction; the interaction becomes increasingly narrow; the child increasingly flat; and eventually "written off".

A fourth deviant feature of language interactions with our SMPH subjects is that by and large, they are excluded from the conversational aspects of events. Mealtime, for instance, is not just for eating; it is a speech event. There is a social, communicative quality to mealtimes and normal children are expected to both eat and participate in the talk (as listeners if nothing else). The extent to which SMPH children who cannot sit at the table with other children are excluded can be seen by noting the placement of their wheelchairs at snack time. While "sitters" are at a table, for example, Jon is placed behind and facing away from the table. The aide faces Jon and the table. This makes it easier for the aide to feed him and at the same time watch the other children, but



it prevents Jon from being in the mealtime event. In the mainstream day care center, though Missy is at the table, in a special chair, her teacher seems to believe that she is there primarily to eat and secondarily to be around but not with the others. All of the language input to Missy at mealtimes concerns the food. None refers to other children's jokes or comments. In other words, while interactions with normal children expose them to a whole, hierarchical language system (Edelsky, 1978), including the larger parts of that system such as speech events, interactions with SMPH children may be presenting distorted input regarding these larger sociolinguistic units of normal life.

The development of communicative competence in normal children takes place as child and adult (or sibling or peers) construct meanings together while co-participating in daily life. The combined effect of the four interactional deviancies we have noted is to further reduce already reduced opportunities for co-participation and mutual meaning construction between the SMPH child and another person. The young cerebral palsied child thus learns to be reactive and to cope with the meanings of others instead of generating meanings that can then be negotiated.

We are not suggesting that the preceding deviancies are due to deliberate malevolence. Language research in recent years (Cazden, 1970; Cazden, John, & Hymes, 1972; Hymes, 1964; Lindfors, 1980; Snow & Ferguson, 1977) has increasingly shown how interaction varies with context, including attributes of co-participants. SMPH children certainly present a contextual variation which is accordingly accommodated by speakers. The problem is that the details of the accommodations may be harmful in the long run to the communicative development of these children.

What we are beginning to suspect, based on our initial findings of these deviant aspects of interaction, is that the impression of expressionless, passive or frustrated, non-communicative cerebral palsied children may be as much a function of the quality of interactions they experience as it is a function of their physical prison. Further systematic observation of naturally occurring interactions with cerebral palsied, non-oral SMPH children should be most revealing to special educators, regular-school mainstream teachers, therapists, and parents. The quality of interaction, owing much to adult and peer assumptions and general

stances vis-a-vis the SMPH child, may have as much (or more) to do with that child's communicative progress as any specific "therapeutic" technique.

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